TITLE: FURNITURE FABRIC AND A MANUFACTURING METHOD FOR YARN OF FURNITURE FABRIC

FIELD OF THE INVENTION

This invention relates to furniture fabric and a manufacturing method of yarn of the furniture fabric, particularly to one made of compound yarns produced by a new method, which allows colorful designs, better tension strength, good supporting force to bear heavy weight, and with variously modified surface of PVC to augment comfortable feeling.

BACKGROUND OF THE INVENTION

As disclosed in the US Patent No. 4,996,100 titled "Fabric of mixed yarns" which is utilized in indoor and outdoor couches or furniture, almost applies the fabric interwoven of single-ply hard yarn with single-ply soft yarn. The soft yarn is made of acrylic fiber, polypropylene yarn, polyethylene and polyester, and the hard yarn is made of polyvinyl-chloride.

The above-mentioned woven fabric is made of single-ply warp and fill, and such a fabric made of single-ply warp and fill has the following disadvantages.

1. Fabric made of single-ply hard yarn mixed with single-ply soft warp and fill is less easily stained, but is not able to sustain heavy weight.

Fabric made of all soft single-ply warp and fill has enough softness, but limited variety of color and is void of good tension strength.

SUMMARY OF THE INVENTION

The purpose of the invention is to offer a new furniture fabric which provides superior supportive force for heavy weight

and tension strength and still good softness, and a manufacturing method of such furniture fabric.

The features of the invention are described as below:

1. The twisting technique of the furniture fabric in this invention is performed according to the physical principle that twisting with positive and negative force thus can prevent the flaw of curling and tangling of common yarn after twisting. The first step of making such yarn is to twist material into single-ply yarn, and the second step is to twist two or more single-ply yarns of the same or the different material into compound plural-ply yarn, therefore can overcome a drawback of common yarn that thermal shaping is mandatory prior to weaving.

2. The furniture fabric is woven, in a certain ratio, of compound yarns twisted by single-ply warp and fill.

3. The furniture fabric is made, by weaving either the compound yarns twisted by double-ply warp and fill in both ways, or that twisted by single-ply warp and fill with double-ply warp and fill, or that twisted by single-ply warp and fill with the compound woven warp and fill, or the parallelly merged yarns according to preset ratios, which enables to have good variety of colors, better supportive force for heavy weight, and stronger tension strength.

BRIEF DESCRIPTION OF DRAWINGS

This invention will be better understood by referring to the accompanying illustrative drawings, wherein:

Figure 1 is a side view of a first step of a first embodiment of a manufacturing method of yarn of furniture fabric in the present invention;

Figure 2 is a side view of a second step of the first embodiment of a manufacturing method of yarn of furniture fabric in the present invention;

Figure 3 is a side view of a second step of a second embodiment of a manufacturing method of yarn of furniture fabric in the present invention;

Figure 4 is a side view of a third step of the second embodiment of a manufacturing method of yarn of furniture fabric in the present invention;

Figure 5 is an upper view of a first embodiment of furniture fabric in the present invention;

Figure 6 is an upper view of a second embodiment of furniture fabric in the present invention;

Figure 7 is an upper view of a third embodiment of furniture fabric in the present invention;

Figure 8 is an upper view of a fourth embodiment of furniture fabric in the present invention;

Figure 9 is an upper view of a fifth embodiment of furniture fabric in the present invention;

Figure 10 is an upper view of a sixth embodiment of furniture fabric in the present invention; and,

Figure 11 is an upper view of a seventh embodiment of

furniture fabric in the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The first embodiment of the manufacturing method of the furniture fabric in the present invention, as shown in Fig. 1, includes the first step of twisting a single-ply yarn 1 of acrylic, polypropylene, polyethylene, polyester, or polyvinylchloride by a single twisting machine into single-ply yarn 10, which can be the right direction, or the left.

The second step, as shown in Fig. 2, is to twist two, three, four or more than four single-ply yarns 10 of the same material or different materials (shown in Figs. 2, 3 and 4) by a plural twisting machine into two-ply, three-ply, or four-ply two-way-twisted compound yarn 2. Thus two-way-twisted compound yarn 2 is made of plural single-ply yarns 10.

The two-way-twisted compound yarn 2 made by following the first and the second steps mentioned above have the following advantages. When the two-way-twisted compound yarn 2, which as the second step stated, is made of a plurality of single-ply twisted by yarns 10 processed from single-ply twisted yarn, it keeps the nature of not liable to curl up linearly, or to disfigure in its shape, and moreover, with each single-ply twisted yarn 10 tightly connected with each other, not separable at random thus able to maintain the best physical condition for being benefitial to weaving.

Fig. 5 shows the first embodiment of the furniture fabric,

which is woven with warp 3 and fill 4, which are both made of two-way-twisted compound yarn 2, in a proportion of X : Y (X : Y =1:1). This kind of furniture fabric has the following advantages.

1. The color of the fabric can be various to permit the pattern design more freely.

2. The tension strength is much stronger owing to the two-way-twisted compound yarn.

3. The furniture fabric is able to bear heavier weight because both warp and fill of the fabric are made of two-way-twisted compound yarn 2, thus the ability of bearing heavy weight is more outstanding.

Next, Fig. 6 shows the second embodiment of the furniture fabric which is woven with warps 3 and fills 4 made of a single-ply yarn 1(X) and a two-way-twisted compound yarn 2(Y) in the proportion of X : Y (X : Y = 1 : 1), and have a same proportion of the warps 3A and the fills 4A, thus has the same advantages as the first embodiment.

Further, Fig. 7 shows the third embodiment of a manufacturing method of the furniture fabric, which is woven with warps 3B and fills 4B made of single-ply yarn 1(X) and two two-way-twisted compound yarn 2(Y) in the proportion of X : Y (X : Y= 1 : 2), But the proportion of the warps 3B and the fills 3B being in the same proportion, thus has the same advantages as the first embodiment.

Fig. 8 shows the fourth embodiment of the furniture

fabric, which is woven with warps 3C and fills 4C made of a single-ply yarn 1(X) and three two-way-twisted compound yarn 2(Y) in the proportion of X : Y=1 : 3, with have a same proportion of the warps 3C to the fills 4C, thus has the same advantages as the first embodiment.

Next, Fig. 9 shows the fifth embodiment of the furniture fabric, which is woven with warps 3D and fills 4D, with the warps 3D being made in the proportion of 1 : 2 of the single-ply yarn 1 to the two two-way-twisted compound yarn 2, and with the fills 4D made in the proportion of two single-ply yarns 1 to two two-way-twisted compound yarn 2 being, with the warps 3D and the fills 4D being made of in different proportion of single yarn 1 to two-way-twisted compound yarn 2, having the same advantage as the first embodiment.

Further, Fig. 10 shows the sixth embodiment of furniture fabric, which is woven with warps 3E and fills 4E made of single yarn 1, two two-way-twisted compound yarn 2, and one compound woven yarn 5 in the proportion, meaning the warps 3E and the fills 4E are made of the single yarn 1, the two-way-twisted compound yarn 2, and compound woven yarn 5 in different proportions, thus has the same advantages as the first embodiment.

Finally Fig. 11 shows the seventh embodiment of the furniture fabric, which is woven with warps 3F and fills 4F made of compound parallel yarn 6 in certain proportion, but also

applicable in a different proportion X : Y (X may be larger, the same or smaller than Y), thus has the same advantages as the first embodiment.

The various furniture fabrics in the invention have been described along with their advantages, yet when it comes to real practice, the proportion of the single yarn 1, the two-way-twisted compound yarn 2, compound woven yarn 5, or compound parallelly merged yarn 6 can be adjusted with a view to optimizing the desired color, the required tension strength, the needed softness, and the wanted supportive force to bear heavy weight as well.

While the preferred embodiments of the invention have been described above, it will be recognized and understood that adequate modifications may be applied therein and the appendant claims are of the intention to cover all such modifications that may fall within the spirit and scope of the invention.